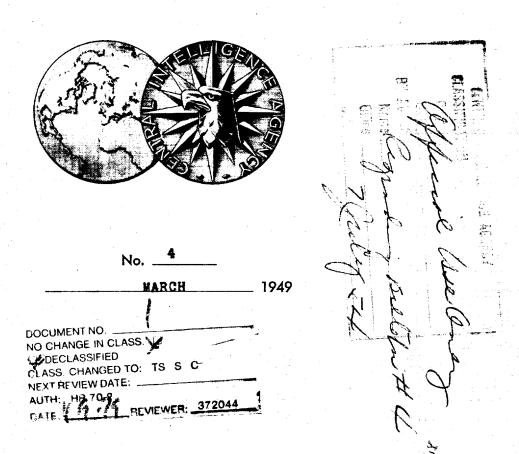
Approved for Release 1999/09/26 : CIA-RDP79

Jufan 45239

MAP RESEARCH BULLETIN



CENTRAL INTELLIGENCE AGENC

RESTRICTED

WARNING

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C., 31 and 32, as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

MAP RESEARCH BULLETIN

MR-4

CENTRAL INTELLIGENCE AGENCY MARCH 1949

RESTRICTED

TABLE OF CONTENTS

		Page
1	Postwar Activities of the Japanese	
	Hydrographic Department	1
	Historical Appendix	9
II.	Brief Notices	13
	A. Civil Pivisions Maps of Austria	. 13
	B. Impending Changes in the British Commonwealth	
	C. Resumption of Publication of Petermanns Mitteilungen	. 15
	D. Resumption of Publication of Geographisches Jahrbuch	17

Note: This Bulletin has not been coordinated with the intelligence organizations of the Departments of State, Army, Navy, and the Air Force.

RESTRICTED

POSTWAR ACTIVITIES OF THE JAPANESE HYDROGRAPHIC DEPARTMENT¹

BACKGROUND

By the beginning of World War II, the Japanese Hydrographic Department had developed into one of the world's foremost hydrographic agencies. Its surveys, charts, publications, oceanographic researches, and inventions had contributed significantly, both at home and abroad, to the safety of navigation, promotion of foreign trade, and the collection of sea products. By the 1940's the Department was publishing nearly 1,800 nautical charts, and about 230 miscellaneous charts (for plotting and special uses) covering the coast and islands of the Pacific Ocean (including the coasts of North and South America), and the coasts surrounding the Indian Ocean. The Department published no charts of the Atlantic Ocean. The Japanese charts compared favorably in accuracy with those of other nations.

In addition to the coasts of the Japanese main islands, the Department had surveyed (partially in most cases) the following areas:

Area	Date of Survey	Area	Date of Survey
Bering Sea	1936	Java	. 1942
Paramushiru-tō	1936	Sumatra	1943
Kuril Islands	1887 to 1943	Celebes	1942
Aleutian Islands	1942	Borneo	1942
Korea	1889 to 1937	Bismarck Arch	n. 1943

^{1.} This report was prepared in January 1947 by Mr. B.J. Anderson of the United States Hydrographic Office at the USHO branch office then functioning in Tōkyō. It was compiled from question sheets submitted to the Japanese Hydrographic Department and spot interviews, supplemented by Hydrographic Department of the Imperial Japanese Navy, Tokyō, 1926. The development of the Japanese Hydrographic Department from the middle of the nineteenth century to the beginning of World War II is given in the Historical Appendix at the end of the paper.

Area	Date of Survey	Area D	ate of Survey
Formosa	1895 to 1938	Ceram	1942
China Coast	1897 to 1941	New Ireland	1942
Nansei-shotõ	1888 to 1938	Solomon Islands	1942
Na mpő-shotő	1936 to 1940	Gilbert Islands	1942
Caroline Islands	1914 to 1942	New Guinea	1943
Marcus Islands	1934	Halmahera	1943
Marshall Islands	1917 to 1943	Burma (Rangoo	n 1943
Marianas Islands	1916 to 1929	River)	
Palau Islands	1918 to 1938	Indian Ocean	1943
Philippine Islands	1942	(Nicobar Is.)	
(W. Coast Luzon)		Malaya (W. Coa	st) 1942

The Hydrographic Department had also developed auxiliary activities closely related to surveying and chart production. In addition to hydrographic (navigational) charts, it issued pilot charts of the Western Pacific that showed winds and currents, sailing direction, light lists, notices to mariners, hydrographic and oceanographic reports and manuals, nautical aimanacs and ephemerides, tide tables, current tables, magnetic reports, and a meteorological pilot. The Department also broadcast marine and meteorological information. To insure competent personnel, the Department maintained a training school at Fujisawa, about 25 miles southwest of Tōkyō; graduates were assigned to field or office duties according to their abilities.

POSTWAR SITUATION

On 10 March 1945, two-thirds of the Tōkyō buildings of the Department were destroyed by American fire bombs. The damage to printing shops and storage warehouses was extensive; only the concrete walls, twisted steel trusses, and wrecked printing machinery remained after the bombing. Because of economic conditions, no attempt has been made to construct permanent replacements.

With the postwar elimination of the Japanese Navy, the Hydrographic Department was placed under the Ministry of Transportation by Japanese Imperial Ordinance 666, dated 29 November 1945. Its former six principal divisions were consolidated into three sections to which seven divisions were subsidiary (see following table). The Meteorological Section, which had collected a considerable amount of valuable typhoon data, was abolished in April 1944 and its duties were assigned to the Central Meteorological Observatory.

Reduction in appropriations and in commercial demands for charts and publications, and loss of most of its buildings, survey vessels, and equipment forced the Department to operate with reduced personnel quartered in the few undamaged buildings.

In 1940, the 50 survey ships and sounding boats of the Department totalled 12,852 gross tons; by the end of 1945, losses had reduced the number of vessels to 22, with a total of 616 tons. An inventory of floating equipment for 1940 indicates that the Japanese had planned to do extensive field surveying during the war. Practically all of the larger ships, however, were sunk or badly damaged. At present, four small survey ships are in service, the No. 1 Tenkai-Maru, the No. 4 Kaiyo-Maru, the No. 5 Kaiyo-Maru, and the Heiyo-Maru. Most of the 32 sounding boats were scattered during the war but are now being collected and repaired. The personnel report for 1940 showed 1,362 employees, as compared with 769 for 1946.

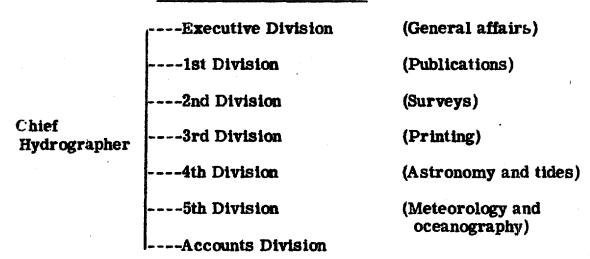
All compilation sheets, survey records, and large quantities of printed charts for areas beyond the main islands of Japan were confiscated by order of the Supreme Commander for the Allied Powers.

The resumption of the Department's peacetime functions was authorized by SCAPIN-794, dated 5 March 1946. The normal functions of the Department have now been resumed on a small

JAPANESE HYDROGRAPHIC DEPARTMENT

A. Organization in 1940

MINISTRY OF THE NAVY



B. Crganization in 1946

MINISTRY OF TRANSPORTATION

	Secretariat	Executive Division	(General affairs) (Accounts)
·		Suvvey Division	(Surveys)
Chief Hydrographer	1st Section	Oceanographical Division	(Oceanography and tides)
		Astronomical Division	(Astronomy)
	2nd Section	Hydrographic Division	(Cartography pub- lications, notices to mariners)
		Printing Division	(Printing)
Hydrographic School		(Education of apprentices)	

RESTRICTED

Approved For Release 1999/09/26 : CIA-RDP79-01005A000100060001-8

scale. No extensive surveys, however, have been made by the Department since the end of hostilities. Beach profiles in five small areas on the east coast of Honshū were ordered by the Strategic Bombing Survey on 10 November 1945, and were completed the same month. Requests for permission to resurvey the silted entrances of a few small rivers on the east coast of Honshū were also approved and the projects were completed.

Prior to the war, tidal observations were made at 14 standard stations in Japan and its occupied areas. Observations are now being made at five standard stations in Japan. Three types of recording gauges are in use -- the Kelvin, Ares, and the Honda pressure types. A Kelvin tide predictor, in which 15 principal tidal constituents are used, is in operation at the Tökyö office. The Japanese tide tables list daily times and heights of high and low waters for 132 standard ports.

Observations of the Japanese Current (Kuroshio or Black Current) were suspended during the war. Because of the relation of this current to the fishing industry and navigation, the Japanese have been permitted to resume observations. About 57,000 square miles off the south coast of Honshū were covered in July 1946. Observations were made on depths, water temperatures, salinity, silicate content, current, sea color and transparency, oxygen content, plankton, wave conditions, and meteorological conditions.

Detailed current observations were made in Tokyo-wan (bay) between 10 July and 30 August 1946. These included hourly measurements of current velocity by recording current meters attached to a ship moored with three anchors.

For the present, Japanese oceanographic activities are not permitted south of 30° N., although commercial fishing is allowed as far south as 24° N.

Office personnel is engaged in printing Japanese charts, nautical almanacs, notices to mariners, ephemerides, and light lists, primarily for the Allied Powers and Japanese-manned repatriation vessels. The reduction in Department activities is indicated in the following list showing publications issued in 1940 and in 1945-46:

Name of Publication	Copies issued 1940	Copies issued Sept. 1945-July 1946
Charts, Ordinary	440,464	78,500
Charts, Classified ¹	482,815	43,588
Aero-maps, Ordinary	40,308	0
Aero-maps, Classified	282,451	131
Miscellaneous charts	70.582	763
Miscellaneous drawings, Ordinary	915,137	2,610
Miscellaneous drawings, Classifie	d 754,25 0	2,706
Nautical books, Ordinary	50,763	27,000
Nautical books, Classified	10,777	0
Aeronautical books, Ordinary	2,620	o o
Aeronautical books, Classified	5,532	Õ
Miscellaneous books	22,801	0
Notices to mariners, Ordinary	126 ,950	81,200
Notices to mariners, Classified	20,840	0
Notices to aviators, Ordinary	63 0	Ŏ
Notices to aviators, Classified	2,800	0

TECHNIQUES

Surveying

The Japanese use standard hydrographic surveying procedures, adequately sounding all areas and wire-dragging critical areas and channels in order to locate dangerous rocks and obstructions.

^{1.} Throughout the table, "classified" refers to security classifications.

The main Japanese triangulation nets were usually formed with strong central point figures and were adjusted by the method of least squares. The accuracy of the control appears to be of third order. Base lines were measured with invar tapes.

Aerial photography was used for surveys of shore lines and adjacent topography; multiplex projectors, stereometers, and stereoscopes were used in the photogrammetric work. Although a Zeiss stereoplanigraph was purchased in July 1929, it was not used for topographic purposes but for the study of wave formation and action. After these studies proved unsatisfactory, the instrument was dismantled and not reassembled and calibrated until 1946.

Cartography

The present Japanese method of preparing compilation sheets involves making tracing paper copies of field sheets, replotting soundings for areas of particular importance, and hand drafting most details, including subdivided borders. Mechanical aids to drafting, stabilized paper, preprinted names, and most other labor saving devices are not used. Two photocomposing machines were formerly used for transferring titles, but they were destroyed during the war. Compilation tracing sheets are photographed and transferred to zinc plates by the usual lithographic process.

Japanese methods differ widely from those of the US Hydrographic Office, where mechanical methods are used in place of hand work wherever possible. In the US Hydrographic Office, place names, compass roses, soundings, etc., printed on rice paper or cellulose are used in place of hand drafting; data are transferred from negatives to copper plates by means of pantographic engravers that eliminate distortions; and photographic processes replace hand work at several stages of chart production.

Despite the simplicity of Japanese methods, the charts exhibit high-quality draftsmanship.

Photo-Lithography

In general, the photo-lithographic methods of the Japanese resemble those of the US Hydrographic Office.

The largest camera of the Department, 45" x 33", has heavy steel plate girder suspension but lacks many of the remote control devices found on more modern cameras of similar size. Other smaller cameras appear to have been in use for many years but are still operating satisfactorily. Because of the acute glass shortage, negatives are stripped for reuse as soon as the zinc plates are processed. Lithographing equipment in use includes graining machines and plate whirlers.

Printing

Prior to 1940, the Japanese Hydrographic Department had 13 off-set presses. It is now operating only four presses of this type (45" x 33"), of which two are provided with automatic feed, and two are hand fed. Two flat-bed presses are also installed and in operation. Three additional printing presses, used for notices to mariners and other small work, are installed and two are in operation. All presses are of Japanese manufacture.

Since most of the printing equipment of the Tokyo office was destroyed during the war, the Department has had to collect presses and other items from plants that were dispersed throughout the country during the war as a precautionary measure. Most of the equipment collected was coated with rust, but Japanese workmen are engaged in cleaning and adjusting the machinery. The efforts being made to replace or repair damaged printing

equipment are indicative of the resilience that characterizes all phases of the activity of the Department. Although the agency is operating on a reduced scale, such resilience gives promise of continued useful work by the Japanese Hydrographic Department.

HISTORICAL APPENDIX

The establishment of the Japanese Hydrographic Department was a direct result of the increase of foreign commerce with Japan during the last half of the nineteenth century, which emphasized the need for nautical charts of the principal Japanese ports and trade channels. Since the Japanese had almost no equipment or personnel trained for hydrographic work, early surveys were made chiefly by visiting ships of foreign nations.

The first Japanese hydrographic surveys were made in 1859 at the naval training station at Edo (Tōkyō), using the Dutch system of signs and abbreviations. Several additional charts were published in 1865. Japan, however, was probably first introduced to systematic hydrographic surveying in 1870, when the Captain of H.M.S. Sylvia surveyed considerable areas at Matoya-wan (bay at 34° 22′ N., 136° 54′ E.), Owase-wan (bay at 34° 05′ N., 136° 05′ E.), Shiwaku-shotō (islands at 34° 23′ N., 133° 43′ E.), and Bisan-seto (channel at 34° 24′ N., 133° 33′ E.). The Sylvia worked in cooperation with a Japanese warship and had aboard as observers Japanese naval officers, who were later to form the nucleus for a permanent charting organization.

The Japanese Naval Hydrographic Department was established by an amendment to the Official Organization of Heibu-sho (Military Department) promulgated 28 July 1871. It was placed under the control of the Naval Branch of the Military Department until the Navy Department was established the

following year. Rear Admiral Yanagi was selected as head hydrographer, with one commander and two lieutenant-commanders as assistants; civilian personnel consisted of twelve officials and nine employees. The functions of the Department, as defined in the amendment, were "to survey channels, install buoys, maintain lighthouses, and render accounts of expenditures."

Quarters were provided for the new hydrographic organization in the Tsukiji section of Tōkyō. It has remained at this site to the present, except for a short period beginning in February 1872 when it was forced to move to temporary offices in Shiba-ku, another part of Tōkyō, as a result of a fire.

In the establishment of its operations, the Department was aided materially by the Captain of the <u>Sylvia</u>, who not only lent equipment but also provided instruction in chart compilation and reproduction.

In 1871, the Japanese ship <u>Kasuga</u>, accompanied by and using equipment borrowed from the <u>Sylvia</u>, was sent to survey parts of the coast of Hokkaidō. The two ships surveyed different districts. On its homeward journey, the <u>Kasuga made</u> independent surveys at Miyako-wan (hay at 39° 37' N., 141° 59' E.) and Kamaishi-wan (hay at 39° 16' N., 141° 54' E.). These surveys provided data for the construction of Japanese Chart No. 1, <u>Kamaishi Harbor</u>, which was printed from a copper plate engraving in August 18'12.

In 1874, the first meteorological and astronomical stations were established. Among the several foreigners who contributed to Japanese advancement in astronomical work was Doctor George Davidson of the United States, who originally had gone to Japan in 1871 to observe the transit of Venus.

During the early years of the Hydrographic Department, work was conducted with two or three warships. Ships were available only on a temporary basis and when not in use by other branches of the Navy. Consequently, surveying parties often missed the best seasons for their work. After 1878, the Department sent surveying parties overland to their bases of operation. Only small boats were used in surveying. The first survey of this type was made on the coast near Higo (310 22' N., 1300 17' E.), Kyūshū. The Department at first concentrated on ports or bays. No general coast survey was made until 1881, when the warship Raiden surveyed 300 miles (a direct length of 70 miles) of the northeast coast of Honshū.

In 1882, naval authorities approved a Hydrographic Department plan to survey the entire coast of Japan in 12 years, using surveying parties stationed at land bases. The proposal was made because the Department saw no immediate opportunity for obtaining a ship for surveying exclusively. The length of coastline that had been surveyed by this time was as follows:

Total coastline of Japan	15,189 miles	
Coastline surveyed		
by Hydrographic Department	1,448 miles	
by foreign ships	3,616 miles	
Coastline roughly surveyed		,
by Hydrographic Department	121 miles	
hy foreign shins	543 miles	

Following the approval of its plan, the Department declined further assistance from foreign ships, which had continued to survey Japanese harbors and bays. By 1397, the Hydrographic Department was publishing 288 fairly reliable charts, designed for various purposes, which enabled ships to

navigate safely along almost any part of the coast of Japan and its neighboring waters. The plan to survey the entire coastline was not completed, however, until 1918. In the meantime, several charts for Chinese and Russian coasts had been compiled, chiefly from foreign data.

All of the buildings, records, plates, and materials of the Department were destroyed by an earthquake and fire in 1923. Substantial buildings soon replaced those destroyed, and in time normal operations were resumed. Those districts whose hydrographic features had been changed by the earthquake were resurveyed immediately after the disaster; other areas had to be resurveyed because of the loss of records. By 1 April 1926, the number of charts published totaled 1,466 and covered the entire Pacific and Indian Oceans.

As the Department developed, it expanded and modernized its equipment. In 1924, the L-type sonic sounding device was installed on the survey ship Manshu. Portable sounding devices for boats were purchased and a gyro-compass was added to the equipment of the survey ship Katsuriki in 1936. The Department also installed several of its own inventions, for example, a photo-composing device and a J.H.D.-type magnetometer.

By the beginning of World War II, Japan had a Hydrographic Department that was comparable in scope and in the quality of its production with those of the western nations.

II. BRIEF NOTICES

A. Civil Divisions Maps of Austria

The Bundesamt fur Eich- und Vermessungswesen (Landesaufnahme), the official mapping agency of the Austrian Government, has published a series of civil divisions maps and lists of names for each of the eight Länder (provinces) of Austria. The maps are entitled Karte der Ortsgemeindegrenzen von Kärnten, Karte der Ortsgemeindegrenzen von Vorarlberg, etc. (CIA Call No. 40413). I All maps are dated June 1948 and the information shown is for January 1948. For each Land, there is a set of three sheets: (1) an outline map of the Land at the scale of 1:500,000 showing the boundaries of the civil divisions in black and hydrography in blue; (2) a transparent overlay at 1:500,000 showing the same boundaries in black; and (3) a list of the names of civil divisions within the Land. The minor divisions on the overlay are indentified by numbers that are keyed to those in the list of names. The civil divisions shown for each Land are: Stadtbezirk (municipality), Bezirkhauptmannschaft (principal administrative district), Gerichtsbezirk (judicial district), and Gemeinde (commune). The maps reveal that the geographical framework of civil divisions above the level of the Gemeinde has been restored to the situation as of 1937 with only a few exceptions.

B. Impending Changes in the British Commonwealth

(1) Union of Newfoundland with Canada

The effective date for the union of Newfoundland with Canada has been set tentatively as March 31, 1949. In a referendum in July 1948, a majority of the voters of Newfoundland expressed

^{1.} Maps referred to throughout the Bulletin may be obtained by calling Code 143, Extension 2596 or 2597.

themselves in favor of the union. On 11 December 1948, representatives of the Canadian and Newfoundland Governments meeting in Ottawa signed an agreement on the terms of union. The agreement has been approved by the Canadian Parliament and the Government of Newfoundland, and must be confirmed by the British Parliament before it becomes effective. For this reason 31 March cannot be considered as the absolute deadline for the union.

According to the agreement, Newfoundland (including Labrador) will become a province of the Dominion of Canada, comparable to Quebec, Ontario, and the others. The new province will be represented in the Canadian Parliament by six senators and seven members of the House of Commons. Newfoundland thus will end its long history as a separate entity within the British Commonwealth. Before 1934, it was a self-governing Dominion. Since then, it has been governed by a Commission representing both Newfoundland and the United Kingdom. The Canadian-Newfoundland boundary in the Labrador Peninsula, hitherto shown on most maps as an international boundary, will become a provincial boundary within Canada. This boundary was defined in general terms in a decision of the Judicial Committee of the British Privy Council in 1927, but has never been demarcated on the ground.

(2) Separation of Ireland from the British Commonwealth

Ireland will become independent on 18 April 1949. The law entitled "Republic of Ireland Act 1948" was passed by the Irish Parliament and was signed by the President of Ireland on 21 December 1948. By repealing certain provisions regarding the conduct of foreign relations, this act severs the legal tie with the British Commonwealth of Nations. This act declares that the state shall be described as the Republic of Ireland. In matters of citizenship and tariffs, Ireland will retain close associations with the Commonwealth, but for most practical purposes, including map-making, the Republic may be considered as independent.

The independence of the major portion of the Irish island raises several questions regarding the constitutional status of Northern Ireland which will have to be resolved by act of the British Parliament since there is small likelihood that the two parts of the island will become united. Among the several questions to be resolved are: (1) the future name for Northern Ireland, and (2) the revised title of the King. It has been suggested, that the name of the portion remaining within the United Kingdom should be changed from Northern Ireland to Ulster. According to press reports, this change would not meet with approval in the southern part of Ireland because, historically, Ulster includes not only the six counties now in Northern Ireland but also three counties in the area which will become independent. On the other hand, objections have been voiced in the United Kingdom to the designation Republic of Ireland since this title could be understood to include Northern Ireland. The King's title, which describes him as the King of Great Britain, Ireland, and the British Dominions beyond the seas, will have to be revised so as to exclude the Republic of Ireland but include Northern Ireland.

There is much confusion among map-makers and others regarding the use of the names Ireland and Eire in referring to the southern portion of the island. Irish officials have informed American representatives that they now prefer the form Ireland, and that Eire should be used only when speaking or writing the Irish language. Unless some official action is taken to change the name, it seems preferable for American map-makers to use the name Ireland.

C. Resumption of Publication of Petermanns Geographische Mitteilungen

In July 1948, Petermanns Geographische Mitteilungen, one of the oldest and best known geographical periodicals in the world, resumed publication as a quarterly after a lapse of three

years. Petermanns first appeared as a monthly publication in March 1855 and was published regularly by the Justus Perthes map establishment in Gotha until February 1945. It was the last geographical periodical in Germany to cease publication during the war, the last issue being Vol. 91, No. I-III, January-March 1945.

Professor Dr. Max Hannemann of Justus Perthes and Professor Dr. Nikolaus Creuzburg of the Dresden Technical High School, were co-editors in 1945. The new Petermanns has as its editor 76-year-old Professor Dr. Hermann Haack, formerly retired from Justus Perthes, where he was chief cartographer and editor of Stielers Atlas. He had also gained a world-wide reputation for the wall maps which bear his name. The postwar Petermanns is still published and printed by Justus Perthes, Gotha, but operates under a license from the Soviet Military Administration in Germany.

Volume 92, Number 1, appeared in July 1948. Volume 92, Number 2 was published in September 1948, on the occasion of the 70th anniversary of the death of August Petermann, founder of the journal.

The prewar editorial policy of providing world-wide coverage in its articles, maps, and notes on geographic organizations has been continued. A new policy of emphasizing the works of Soviet geographers has been added. Each of the two postwar numbers contains translations of articles that have appeared in recent Soviet journals, as well as bibliographic citations in Russian. The new policy has the value of making Russian data available to readers of German but it weakens the position of Petermanns as a leader in geographic thought.

The first postwar number contins two articles dealing with maps: "Die Weltkarte von Jehan Cossin aus dem Jahre 1570" by Karl Kuchar, and "Die Weltbodenkarte des Akademikers L.I. Prasolov" by A. A. Rode (translated by Hermann Haack).

The second number contains only one: "Die Typometrie, ein vergessenes Verfahren der Kartenherstellung" by Werner Horn.

The first number contains five black and white sketch maps to illustrate an article on the structure of the Antarctic. The second number has a large, folded, colored map entitled, "Kulturwaldlandschaft im Gebiet des Steigerwaldes", at the scale of 1:50,000, by G. Kreuzer, 1934/35, which accompanies Kreuzer's article, "Kultur-und Naturlandschaft im Keuperbergland zwischen Main und Aisch."

Both issues contain book reviews, map and book bibliographies, summaries of the contents of various geographic periodicals, and notes of personnel, necrology, research organizations, societies, and periodicals. Of 16 articles in the two issues. 10 were written by Germans, 4 by Russians, and 1 each by a Swede, a Czech, and a Spaniard.

Though bibliographic citations are predominantly German, there is a surprising number of French, British, and American items. All new maps cited are German-made. The old <u>Petermanns</u> grouped map articles and bibliography in a special section on "Kartographie." This practice has not been resumed, although in most other respects the format has not been changed.

Petermanns Geographische Mitteilungen has always been a valuable source for map research. The new Petermanns, although useful, has not attained in its first two issues either the completeness or the reliability of its predecessor.

D. Resumption of Publication of Geographisches Jahrbuch

According to a notice in <u>Petermanns Mitteilungen</u>, Vol. 92, No. 2, September 1948, the first postwar volume of the <u>Geographisches Jahrbuch</u>, the internationally famous geographical

RESTRICTED

bibliography published by Justus Perthes, Gotha, has been issued as Volume 58, Part II, 1943-47. The volume contains the first half of Knoch-Bluthgen's "Klimatologie und Meteorologie (1929-38)." Volume 59, Part I, 1948, which is in preparation, will contain the second half of Knoch-Bluthgen's bibliography; and Volume 59, Part II, will include "Erforschung der Polargebiete (1932-47)" by Breitfuss.

